Amendments to the Specification:

Please replace the paragraph from page 4, lines 6-15 with the following replacement paragraph:

The biological cell may act as a parallel processing, non-linear, multistate, analog computer. This analog computer can occupy a volume of less than 10^{-16} m^3 and is primarily powered only by sugars, fats, and oxygen. The complexity of these computers is evidenced by the attempts to model ongoing biochemical processes based on *Mycoplasma genitalium*, a microbe with the smallest known gene set of any self-replicating organism ~~(http:\\www.e-cell.org)~~. However, even this simplest model requires hundreds of variables and reaction rules, and a complete model even for a mammalian cell would be much more complex, requiring in excess of 10^5 variables and equations.

Please replace the paragraph from page 16, lines 30-38 through page 16, line s 1-4 with the following replacement paragraph:

The term "toxin" is broadly defined as any agent that may have a harmful effect or harmful effects on any living system such as a cell. Examples of toxins that may be related to practicing the present invention include cyanide, endotoxin, okadaic acid, Phorbol Myristate Acetate ("PMA"), microcystin, Dinitrophenol ("DNP"), Botulinum toxin (a common threat agent; inhibit transmitter release, whole cell MB), Staphylococcus enterotoxin B, ricin (inhibits protein synthesis and ribosmone, OT), mycotoxins, aflatoxins, cholera toxin (activates Cl pump, vesicle MB, NBR), Saxatoxin or tetrodotoxin (Na channel blocker, vesicle MB), Microcystins (hepatocyte metabolism in PC) and organophosphates. Other examples of toxins may be also discussed somewhere else in the specification. Additional examples of toxins can also be found in the market. For example, the following is an exemplary list of toxins with their corresponding product number that are ~~readily~~ available from a commercial source at the website of List Biological Laboratories, Inc. (Campbell, California): [[**gotnet.com:**]]

Please replace the paragraph from page 19, line 25 with the following replacement paragraph:

SNAPTIDE™ ~~SNAPtide™~~ Peptide Substrate for *C. botulinum* 134

Please replace the paragraph from page 32, lines 20-31 with the following replacement paragraph:

Referring now to Fig. 10, response of cells to certain toxin is shown. In Fig. 10, measured acidification rate of cultured cells, when exposed to a stepped increase in a toxin, followed by washout. Line 1001 represents acidification response of hepatocytes to parathion. Line 1002 represents response of hepatocytes to paroxon. Line 1003 represents response of neuroblastomas to parathion. And line 1004 represents response of neuroblastomas to paroxon. Fig. 10 shows the dose-response of a change in pH induced by agents in cell cultures of μL volumes. Fig. 10 uses published data of parathion (open symbols) and paraoxon (filled symbols) on metabolic activity of human hepatocyte and neuroblastoma cells obtained with a commercially available sensor instrument, for example, CYTOSENSOR™, ~~CytoSensor™ instrument,~~ which also shows that commercially available instruments may be modified and utilized to practice the present invention.

Please replace the paragraph from page 72, lines 9-21 with the following replacement paragraph:

Accordingly, as shown in FIG. 22 and discussed above, one method 2200 for discriminating an agent according to one embodiment of the present invention includes the steps of (a) constructing a decision tree 2251 having a plurality of branches 2253, 2255, each branch corresponding to at least one defined action, wherein each branch includes a plurality of successive branches 2257, 2259, each successive branch corresponding to the at least one defined action, (b) providing a conditioned environment 2202 sensitive to the agent, (c) obtaining data from response of the agent to the conditioned environment at 2203, (d) extracting features from the obtained data at 2204, (e) selecting a branch from the decision tree corresponding to the features at 2206, (f) performing on the features the at least one defined action corresponding to the branch, and (g) producing a classification of the agent at 2207. Some of the above steps can be iteratively repeated until the agent is discriminated. In one embodiment, a confidence level is used to control the iterative process of refinement of the agent classification. The agent is considered being discriminated when the confidence level reaches a

threshold value, then the iterative process is stopped. The confidence level is known to one skilled in the art. The at least one defined action, in one embodiment, is corresponding to an experimental protocol that defines the type and quantity of cells to be exposed to an agent, and sets of data (a plurality of measurable quantities) to be collected.